

1. **(Currently Amended)** The invention relates to a A clamp for automated welding installations ,the type that comprises for holding two or more sheets to be handled during welding, said clamp comprising a body ,a bearing fixed arm and a mobile arm and mobile arms which are used adapted to hold said two or more sheets[.] to be handled during welding. The invention has a pneumatic cylinder for activating the said mobile arms of the clamp, which is characterized in that the aforementioned body takes said body being in the form of a central tubular element surrounding said pneumatic cylinder and having two opposing lateral plates welded to one end thereof, said mobile arm being mounted for pivotal movement by said plates to the lower part thereof, in order to support the articulated arm disposed at the centre of the ensemble of the clamp between the said lateral plates supporting the articulation shaft.
2. **(Currently Amended)** Clamp for automated welding installations, according to claim 1, characterized because the wherein said central tubular element is constituted from a calibrated tube with lateral millings at the lower said one end so as to support said opposing lateral plates, said plates being partially fitted which are joined to the tubular element by welding.
3. **(Currently Amended)** Clamp for automated welding installations, according to claim 1, characterized because by the opposing lateral plates of the body of the clamp being are constituted by calibrated steel.
4. **(Currently Amended)** Clamp for automated welding installations, according to claim 3, characterized because the wherein said opposing lateral plates of the body of the clamp have openings within their perimeters, said perimeters and openings being defined-are cut out and their openings are made by laser-beam machining with laser beams.
5. **(Currently Amended)** Clamp for automated welding installations, according to claim 1, characterized because the having a fixed transverse pivot shaft mounted between said opposing lateral plates, and an activation roller operable to be displaced by said mobile arm of

the clamp on said shaft, wherein said opposing lateral plates of the body of the clamp present have lightening openings, orifices for ~~assembling the articulation mounting the ends of the pivot~~ shaft of the mobile arm of the clamp and elongated holes for guiding a said transverse shaft bearer of the activation bearing of roller for displacing the mobile arm of the clamp.

6. **(Currently Amended)** Clamp for automated welding installations, according to claim 1, wherein said body has a pneumatic cylinder for activating the clamp, a piston rod with a drive rod at its free end and an activation roller on said drive rod for pivoting said mobile arm, and characterized because the wherein said mobile arm of the clamp is mounted for pivoting on a fixed pivot shaft between said plates, and takes an L-shaped position and presents on its internal end an elongated hole orifice for the transverse shaft that causes the arm to turn. This said mobile arm is assembled pivot on said pivot shaft, said mobile arm being disposed between the said opposing lateral plates of the body of the clamp and said elongated hole adapted an elongated hole in order to receive the said activation roller, which is joined to the rod of the pneumatic cylinder that activates the clamp. The said elongated hole of the arm presents having a straight inferior area and a gently curved upper area to cause the progressive variation of the angle of incidence between the transverse shaft activating pivoting the swing mobile arm and the elongated hole of this said mobile arm, and thus whereby the straight area provides an irreversibility area on triggering.

7. **(Currently Amended)** Clamp for automated welding installations, according to claim 1, characterized because including a fitted metal band covering the gap between the said two lateral plates assembled in opposite sides of the body of the clamp is covered on its free lower and rear part by a metal band fitted together on it. This metal band is said metal band being provided with a longitudinal opening in which the mobile arm of the clamp passes, said mobile arm including A second metal band, shorter than said fitted metal band confronting, is combined with this mobile arm and it coincides with the internal side of the first said fitted metal band so that it covers the movable closing of its adapted to at least partially close said longitudinal opening, in accordance with the positions of during pivotal movement of the mobile arm.

8. **(Currently Amended)** Clamp for automated welding installations, according to claim 1, characterized because the wherein said pneumatic cylinder that activates the mobile arm of the clamp is lodged inside the tubular element of the body of the clamp between each of the has upper and lower fixed covers, tightened in relation to the said tubular element, by means of a cylindrical casing joined to these upper and lower covers to seal the cylinder, said casing being slightly spaced from the internal side of said tubular element to provide a spacing providing and provided with a light interstice with regard to the internal side of the tubular element. This interstice is used as a passage of for air connecting the upper with the lower parts of the cylinder, in which inside said pneumatic cylinder having a piston associated with the rod and a piston rod having an extension for activating the said mobile arm of the clamp slides.

9. **(Currently Amended)** Clamp for automated welding installations, according to claim 8, including a bolt with a top head extending above said piston, said characterized because the upper cover of the pneumatic cylinder presents a central axial lodging with a lower cylindrical area higher in diameter capable of receiving the having a central receptacle adapted to receive said top head of the bolt combining the piston with the piston rod that activates the mobile arm, in the upper deadlock limit position of the piston.

10. **(Currently Amended)** Clamp for automated welding installations, according to claim 8, characterized because the element fastening the piston to the piston rod that activates the mobile arm presents, in its upper part, an expansion that can fit inside the axial orifice of the upper cover of the pneumatic cylinder. Consequently, there is a pneumatic shock absorber effect together with 9, wherein said receptacle has an air outlet with restricted and adjustable flow to provide a pneumatic shack absorber effect.

11. **(Currently Amended)** Clamp for automated welding installations, according to claim 8, characterized because the upper cover of the cylinder that activates the mobile arm presents, moreover, an air cavity that can connect with the upper part of the cylinder through a smaller-diameter orifice and with the interstice including an orifice in said upper cover admitting air into

said spacing between the cylinder casing and the tubular element of the body ~~through a lateral flow.~~

12. **(Canceled)**

13. **(Currently Amended)** Clamp for automated welding installations, according to claims 1 and 12, characterized because the including a sensor housing that detects the angular turning pivotal position of the mobile arm, and means mounting said housing on fits together with the rear side of the ensemble of the clamp, ~~opposite to the fastening screws of the clamp itself.~~

14. **(Canceled)**

15. **(Currently Amended)** Clamp for automated welding installations, according to claim 14 1, characterized because the coupling between the body of the clamp and the bracket that fastens this including a bracket at the end of the body opposite to said one end, said bracket adapted to fasten the clamp to the a grip or a welding tool is made through a lodging including a cut-out on the bracket . This lodging is combined in shape and can having a shoulder adapted to fit with a corner at the top edge of the tubular body of the clamp.

16. **(Currently Amended)** Clamp for automated welding installations, according to claim 1, wherein said lateral plates have openings, and including covers for said openings, said covers being coextensive with characterized because the closure of the lateral plates of the body of the clamp is made with each of the calibrated covers that coincide onto the external sides of these said plates in an adjusting and compact way with no tightness auxiliary components .

17. **(Currently Amended)** Clamp for automated welding installations, according to claim 1, characterized by the including a mounting unit for setting-up of the said tubular body of the clamp. This unit comprises the body of the drive pneumatic cylinder at the lower part of said

body, and, at the upper part of said body, said lateral plates having openings and defining a prismatic and straight in shape body provided with a wide transverse recess opened at the top in order to lodge a fitted turning mount said mobile arm, which is planned to move the mobile mounting bearer of said lateral plates having orifices for fastening screws. Thus, this turning arm is lodged in this transverse opening, said transverse recess at the top having cover elements closing the upper part of the clamp itself in order to prevent welding splashes and other scraps from going in. The sides of this said recess presents each of the longitudinal half-rod guides with each of the straight passing openings planned to receive the ends of the drive shaft of the turning arm through needle bearings.

18. (Cancelled)

19. (Currently Amended) A clamp for automated welding installations comprising a body and at least two mobile arms adapted to be used to hold two or more sheets to be handled during welding, at least one of said arms being mobile and mounted for pivotal movement, and a pneumatic cylinder for activating said at least one mobile arm[s], wherein

said body has a central tubular element with two opposing lateral plates at the lower part thereof, and an articulation a fixed pivot shaft supported by said plates to support one of said at least one mobile arm[s] for said pivotal movement, said mobile arm being disposed at the centre center of the ensemble of the clamp between the lateral plates,

said central tubular element housing said pneumatic cylinder having a piston, a piston rod, and an extension at its free end with an activation roller engaging a said mobile arm and operable to effect pivotal movement of said mobile arm on said fixed pivot shaft .